

Crit Care Nurs Clin N Am 17 (2005) 495-510

CRITICAL CARE **NURSING CLINICS** OF NORTH AMERICA

Cumulative Index 2005

Note: Page numbers of article titles are in boldface type.

Abstinence syndrome, in benzodiazepines withdrawal, 213

Actigraphy, in sedation assessment, 207 in sedation evaluation, 292-293

Acute care nurse practice, strategies for, 169-175

Acute care nurse practitioner (ACNP) role,

171-181

collaborative relationships and, 179 communication about, 177-178 communication within, 178 competency in, maintenance of, 178-179 demonstrating practice outcomes in, 180 recommendations for, 179

Acute lung injury (ALI), 311-318

assessment of, 316 chemical relaxants for, 316 clinical indications of, 312 corticosteroids for, 313-314 definition of, 311 diagnostic criteria for, 311 high-frequency oscillatory ventilation for, 313 lung protective strategies for, 312-313 mechanical ventilation for, 312-313 nursing care in, 315-317 nutrition in, 315 pathophysiology of, 311-312 prone positioning for, nurse's role in, 316-317 responders versus nonresponders, 314 timing of, 314 pulmonary hygiene for, 316

Acute respiratory distress syndrome (ARDS),

vasodilatory therapy, inhaled, 313

311 - 318

assessment of, 316 clinical indications of, 312

rescue therapy for, 315 sedation for, 316

corticosteroids for, 313-314 definition of, 311 diagnostic criteria for, 311 high-frequency oscillatory ventilation for, 313 lung protective strategies for, 312-313 mechanical ventilation for, 312 nursing care in, 315-317 nutrition in, 315 pathophysiology of, 311-312 prone positioning for, nurse's role in, 316-317 timing of, 314 pulmonary hygiene for, 316 relaxants for, chemical, 316 rescue therapy for, 315 sedation for, 316 vasodilator therapy for, inhaled, 313

Adaptation to the intensive care environment (ATICE) scale, in sedation assessment, 291, 293

Adrenoceptors, physiologic response to vasopressors, 71 - 72organ location of, 72

Advanced cardiac life support (ACLS), pharmacology for, 53-55 teaching of, simulation in, 5

Advance directives, nurses' emerging role in, 198

Advanced life support transportation, 207

Adverse responses, to sedation, analgesia, and neuromuscular blocking agents, 441-450 corneal abrasion, 447 cost associated with, 447-448 gastrointestinal, 446-447 muscular, 444-445 tolerance, dependence, and withdrawal, 441-443

Airway management, for health care providers, International Guidelines 2000 Conference recommendations, 52-54 in patient transport, 205-206

Alcohol, abuse of, 297 dependence on, 297 obstructive sleep apnea and, 273 systemic effects of, 297–298

Alcohol withdrawal syndrome, alcoholic hallucinosis in, 298
assessment of, with Clinical Institute Withdrawal
Assessment for Alcohol-Revised, 297–304
delirium tremens in, 299
medications for, 301–302
patient assessment in, 299–300
psychologic treatments for, 299, 301
symptoms of, 298
symptom-triggered therapy for, 301–302

Amiodarone, for atrioventricular re-entry tachycardia, in neonates and infants, 79, 82-83

Analgesia, adverse responses to, 441–450 post-cardiac surgery, 413–414

Analgesics, pharmacokinetics of, in critically ill patient, 212 in hepatic dysfunction, 245–248 in renal dysfunction, 248–249

Anesthesia, and obstructive sleep apnea, 274-275

Anesthetics, inhalation, for status asthmaticus, 476 Anthropometry, in nutritional assessment, 386–387

Anticholinergies, for status asthmaticus, 471–472

Antidepressants, sedating, for sleep disorders, 231

Antileukotriene agents, for status asthmaticus, 476

Antipsychotic drugs, safety issues with, 68

Apnea. See Obstructive sleep apnea; Sleep apnea.

Arrhythmias, in hypothermia, 101 post-cardiac surgery, 410-411

Atrial flutter, in children, 80, 83-84

Atrioventricular block, in children, 81, 92-93

Atrioventricular re-entry tachycardia (AVRT), amiodarone for, 79, 82–83 in children, clinical interventions in, 79, 82–83 ECG characteristics of, 79 procainamide for, 83

P

Barbiturates, for sedation, 260 for sleep, pharmacology of, 273

Bar code technology, in collaboration, 170

Beacon Award, achievement of, 153-154 establishment of, 149, 164 Georgetown University Hospital, 155-161 application for, 160 challenges and, 160 data collection for, 156 decision to apply for, 155-156 evidence-based practice and research in. 157-158 healing environment in, 157 leadership ethics and, 156 maintenance of, 160-161 organizational ethics and, 156-157 patient outcomes, 158-159 reception of, 160 recruitment and retention, 159-160 steps toward, 156-159 University of California at Davis, 164

Beacon unit, culture and mission in, 151-152

Benzodiazepine (BZD) withdrawal syndrome, 212–217, 273 abstinence syndrome in, 213 chart review of, in adult burn patients, 216 in mechanically ventilated adult patients, 216–217 in pediatric patients, 213–215 prospectively repeated measures study, 216

retrospective chart reviews of, 213, 216

Benzodiazepines (BZDs), in alcohol withdrawal syndrome, 301 for sedation, 260 for sleep, commonly used, 272 pharmacology of, 271–272 for sleep disorders, in cancer patients, 230

Beta-adrenergic agonists, for status asthmaticus, 470-471

Beta-blockers, in alcohol withdrawal syndrome, 302

Bispectral (BIS) monitoring, limitations of, 263 in neurologic examination, 263–264 of sedation, 207, 263, 292 in sedation assessment, 263 and sedation interruption, 257–267 sleep states and, 242–243

Body temperature, cranial vs. core, 99
lowering of, conduction and convection loss in, 100–101
intravascular techniques, 100–101
medications for, 100
measurement of, body sites in, 99–100

Bradyarrhythmias, in children, atrioventricular block, 81, 92–93 sinus node dysfunction, 81, 91–92

Bronchoscopy, for status asthmaticus, 476

C

CAGE questionnaire, in assessment of alcohol withdrawal syndrome, 299

Calcium imbalances, overview and case examples, 365, 371–372

Capacity, in evidence-based practice, 127–132 for organizational excellence, 127–132

Cardiac arrest, from cardiac arrhythmias, 71 in children, emotional outcome of, 19–20 long-term survival of, 17 near-death experience of, 19–20 neurologic impairment and, 17, 20

death of children, grief care for family and, 20-21

bereavement committee for, 21 grief conference in, 20-21

hypothermia for neuroprotection following, 98-99

survival of, 71

vasopressors in treatment of, 71–75 adrenoceptors and, 71–73 dobutamine, 73 dopamine, 73 epinephrine, 73–74 norepinephrine, 73 vasopressin, 74

Cardiac arrhythmias, in children, bradyarrhythmias, 81, 91–93 hemodynamic compromise and, 77–95

parental education in, 83 pulseless rhythms, 81, 93–94 tachyarrhythmias, 78–91

Cardiac function, description of, 375

Cardiac output. See also Low cardiac output syndrome (LCOS).
afterload in, 376
contractility and, 376
definition of, 375
heart rate and, 375–376
and oxygen delivery, 376–377
preload in, 376

Cardiac pacing, for intra-atrial re-entrant tachycardia, in children, 86

Cardiac resuscitation, thermoregulation in, 97–102. See also *Thermoregulation*, in cardiac resuscitation.

Cardiac surgery patient, postoperative management of, 405-416

afterload in, 408 analgesia and sedation in, 413-414 arrhythmias in, 410-411 cardiac output in, 408 fluid and electrolytes in, 412 heart rate and contractility in, 408-409 hemodynamic monitoring in, 405-406 infection and, 414 left atrial pressure in, 407 low eardiac output in, 409-410 neurologic, 413 nutritional, 414 preload in, 408 pulmonary hypertension in, 411-412 pulmonary artery pressure in, 407-408 renal, 413 respiratory, 411 right atrial pressure in, 406-407 thermoregulation in, 411

Cardiopulmonary resuscitation (CPR), family presence during, 23–32
Methodist Hospital, 152

International Guidelines 2000 Conference and, 51–58

pediatric. See also *Cardiac arrest, in children*. age and, 59 emotional outcome of, 19–20 outcome of, 17–18 post-resuscitation care, immediate, 18–19

Cardiovascular system, alcohol effect on, 298

Cardioversion, for atrioventricular re-entry tachycardia, in children, 79, 82

Central nervous system, alcohol effect on, 298

Children, cardiac arrhythmias in, bradyarrhythmias, 91-93

hemodynamic compromise and, 77–95 parental education in, 83 pulseless rhythms, 81, 93–94 tachyarrhythmias, 78–91, 79–91 cardiovascular resuscitation in, 17–20 crash cart medication safety and, 67 in Tsunami disaster. See *Tsunami, children in*.

Clarian Professional Practice model, 109 career levels in, 116 Clarian Safe Passage Program, 121–126. See also Medication safety: Safety: characteristics of high reliability organizations in, 121–122 curriculum in, cognitive task analysis in, 122 proactive patient safety in, 122–123 work complexity in, 122–123 knowledge management and mentoring structure in, 123–124 Leapfrog Group in, 125

mentoring in, among safe passage members, 124 common themes in, 125 external, 124 internal, 124 outcome measures and, 125

as patient safety check and balance, 125 patient safety methodology in, 121-122

Clinical Institute Withdrawal Assessment for Alcohol (CIWA-Ar) scale, in assessment of alcohol withdrawal syndrome, 299–300

Clinical ladder, Nursing Clinical Career Progression Model, at Methodist Hospital, 153

Clonidine, in alcohol withdrawal syndrome, 302

Clopidogrel, for acute coronary syndrome, 55

Code of Ethics for Nurses, and empowered caring, in synergy model, 118

Collaboration, in acute care practice, acute care nurse practitioner role in, 179 in adult ICU, committees for, 169–170 examples of issues and resolution, 170–171

COMFORT Scale, 291, 293

Communication, breakdown in, and interdisciplinary collaboration, 144–145 with house staff on adult ICU, 170 in peer review process, 117 for safety in pediatric ICU, among care givers, 433 daily goals worksheet for, 433–434 with parents and patients, 433 situation, background, assessment, and recommendation in, 434 in transport of critically ill, 187 at unit level, in evidence-based practice, 135

Congenital heart disease, parental experience of, 319-327

baby's experience of, 324 as a dream, 322 as emotional roller coaster, 325 information in, too little and too much, 523-524 last kiss after visit, 323 loss of control, 324 maternal intuition, 322 memory of, 325–326 perception of baby's status, 324–325 senseless of ICU environment, 323 shock, disbelief, shattered, 322–323 studies of, current, 320–326 historical, 319–320 time stopped, 323 trust in, 324 unconditional love and, 321–322

Continuing education, for excellence, at Bay State Medical Center, 173 Georgetown University Hospital, 159

Core groups, at unit level, in evidence-based practice, 136

Corneal abrasions, from sedation, analgesia, neuromuscular blocking agents, 447

Coronary angioplasty, for acute coronary syndrome, 55

Corticosteroids, for acute lung injury, 313–314 for acute respiratory distress syndrome, 313–314 for status asthmaticus, 471–472

CPR (Cardiopulmonary resuscitation). See Cardiopulmonary resuscitation (CPR); Resuscitation events.

Crash carts, medication safety on, 67

Critical care transportation, 207

Critical illness myopathy (CIM), 444

Critical illness polyneuropathy (CIP), 444

Cross-tolerance, 211, 212 of dexmedetomidine and benzodiazepines, 220

Cultural diversity, patient care and, in synergy model, 118

Culture, in evidence-based practice, 132–133 for organizational excellence, 132–133

Culture of learning, for excellence in adult ICU, 172-173

TN.

Death, in pediatric ICU. See also *End-of-life care*. caring for children and families, **349–360** categories of, 349 modes of, 349–352

presence of family members at, 353–354 sudden, parents and, 356 siblings and, 459–460 in trauma center, 356 bereavement programs and, 356–357

Defibrillation, for cardiac arrest, 52

Defibrillator(s), automatic external, 52 biphasic, 52

Dehydration, types of, 363

Delirium, in cancer patient, sleep disturbances and, 229-230

Dependence, definition of, 441

Dexmedetomidine (DEX), in facilitation of opioid and benzodiazepines withdrawal, 220 for sedation, 261 of intubated and mechanically ventilated ICU patients, 219

Diabetic ketoacidosis (DKA), anion gap in, 344–345 complications of, 345 counterregulatory hormone activity in, 344 diagnosis of, 344 hyperglycemia in, 343–344 insulin and glucose conduct and, 341 lipolysis and, increased, 342–343 nursing care in, 346 pathophysiology of, 342 in pediatric ICU, 341–347 treatment of, 345–346 fluid and electrolytes in, 345–346 insulin in, 345–346

Disulfiram, in alcohol withdrawal syndrome, 302

Disuse atrophy, 444

Dobutamine, for cardiac arrest, 73 for low cardiac output syndrome, 381

Dopamine, for cardiac arrest, 73 for low cardiac output syndrome, 381

Dying process, presence of family members in, 353-354 withdrawal of life support in, 353

F

Eindhoven classification model, for a medical domain, 283

Eindhoven classification system, categories of, 279-280

human, 281–284 organizational, 280–282 technical, 279–280

as framework for safety within systems, 279-280

Electrolyte imbalances, 364–372 calcium, 365, 371–372 potassium, 364–365, 369–371 sodium, 364, 367–369

Emergency cardiac care, International Guidelines 2000 Conference recommendations for, 51–58

Emergency department, medication safety issues in, 65-69

End-of-life care. See also *Death, in pediatric ICU*. decision-making in, clinicians' perspectives, 352–353 parental initiation of, 352 improvements in, 357–358 in pediatric ICU, clinician's attitudes, 354–355 decision-making in, parental, 355–356 nurses' role in, 354 parental perceptions of, 355–356 public policy and, nurses' emerging role in, 197–198

Endotracheal suctioning complications of, 330 cues in clinical judgments about, **329–340**, 330–331 recognition of, 331–334 recommendations regarding, 337 study of, 330–331, 335–337 weighing the evidence in, 334–335 performance of, skilled, 335

Enteral support, 385–393. See also *Nutritional* assessment; *Nutritional status*. formulas for, 389–390 indications for, 388–389 mode in, 391–392 nutritional assessment for, 385–388 nutritional status and, 386–387

Environment, healing, 152 and sleep disorders, 229, 231 teaching/learning, 153

Epinephrine, for cardiac arrest, 73

Epworth Sleepiness Scale, 271

Esmolol hydrochloride, for atrial flutter, in children, 83-84

Ethics, leadership, 156 organizational, 156–157

Evidence-based practice, activities fostering expertise in, 132 in adult ICU, at Bay State Medical Center, 173–174

capacity in, for organizational excellence, 127 - 132for unit excellence, 136-137 committee functions for, 127-130 culture in, for organizational excellence, 132-133, 134-136 for unit excellence, 134-136 excellence in. 127-142 indicators of success, 127-128 linkage within and across departments in, 129 medical intensive care unit sedation management, evaluation of, 140 implementation of practice change in, 139 - 140outcomes and results of, 140 synthesis of evidence in, 137-139 at University of Iowa Hospitals and Clinics, vision in, for organizational excellence, 133-134

Evidence-based research, in adult ICU, at Bay State Medical Center, 174

for unit excellence, 134, 137

Evidence-based thinking, in synergy model, 117-118

Excellence, in evidence-based practice, 127–142 organizational, 127–134 unit level, 134, 137

Methodist Hospital CCU as beacon of, 149–154 organizational, in evidence-based practice, 127–134 vision in, 133–134 strategies for in adult ICU, 169–175

Exercise program, for sleep disorders, 232

Experience of broken heart, 319-327

Extubation, of patients with obstructive sleep apnea, respiratory depression following, 275

.

Family, changes in, as center of children's lives, 451-452 parenting behaviors, 452 sibling relationships, 452-453

substitute care givers, 452

Family presence, during CPR, 23–32. See also Siblings, presence in pediatric ICU. for beginning of grief process, 25 of child, 20 definition of, 23 emotional responses of family members and, 26 ethical question of patient *vs.* family wishes in, 27
family facilitator need in, 27–28
health care providers and, experiences with, 27
opposition of, 26
history of, 24
marketing of, 29
outcomes as context for, 23–24
patient's experiences with, research about, 26–27
physician *vs.* nurse attitudes and, 27
recommendations for new program, 28–29
research about family experiences with, 25–26
spiritual care and, 28
studies and evidence about, 25

Family support, in healing environment, 172

Fentanyl, central apnea and, 275 respiratory effect of, 274 for sedation, 261 in ventilated pediatric patient, 208

Fibrinolysis, for acute coronary syndrome, 55 in pathophysiology of sepsis, 420

Fluid, homeostasis of, 361 imbalances of, 362 maintenance, calculations for, 363

Fluid and electrolyte balance, 361-373

Fluid and electrolytes, movement of, 362 post-cardiac surgery, 412

Fluid and electrolyte therapy, in diabetic ketoacidosis, 345

Fluid compartment(s), extracellular, 361 intracellular, 361-362

Fluid volume deficit, 362–363 dehydration in, types of, 363 management of, 363, 367

Fluid volume overload, 362

G

Gastrointestinal system, alcohol effect on, 298

Genitourinary system, alcohol effect on, 298

Glucose, post-resuscitation, in children, 18

Glycoprotein IIb/IIIa, for acute coronary syndrome, 55 for acute stroke, 55–57

H

Haloperidol, in alcohol withdrawal syndrome, 302

Handheld devices. See also Personal digital assistant (PDA).

in critical care, 45-50

issues with, integration into practice, 46 patient safety, 46

scenarios for potential use, 45

Harris scale, sedation assessment in, 290

Healing environment, excellence and, 172 in medical ICU, 157 unit, 152

Helium-oxygen mixture (heliox), for status asthmaticus, 470–471

Hemodynamics, in children vs. in adults, 77-78

Heparin, safe use of, 65 unfractionated, for acute coronary syndrome, 55

Hepatic dysfunction. See Liver dysfunction.

Heroin, for sedation, 260

High-frequency oscillatory ventilation (HFOV), for acute lung injury, 313 for acute respiratory distress syndrome, 313

Hormonal therapy, sleep disturbance and, 228

Human factors, and safety, knowledge-based, 282-283 patient-related, 283-284

Hydromorphone, for sedation, 260

Hypercalcemia, overview and case example of, 365, 372

Hyperglycemia, in diabetic ketoacidosis, 343-344

Hyperkalemia, overview and case example of, 365, 370-371

Hypermagnesemia, overview of, 366

Hypernatremia, overview and case example of, 364, 368-369

Hyperphosphatemia, overview of, 366

Hyperventilation therapy, post-resuscitation, in children, 18

Hypnotics, for sleep, pharmacology of, 273 for sleep disorders, 230

Hypocalcemia, overview and case example of, 365, 371-372

Hypokalemia, overview and case example of, 364, 369-370

Hypomagnesemia, overview of, 365

Hyponatremia, in diabetic ketoacidosis, 343 overview and case example of, 364, 367–368

Hypophosphatemia, overview of, 366

Hypotension, with hypothermia, 101

Hypothalamus, in thermal regulation, 97

Hypothermia, adverse consequences of, 101 effect on drugs used in cardiac arrest, 101 neuroprotection of, in cardiac resuscitation, 98

I

Implantable cardioverter defibrillator (ICD), biventricular, 9 description of, 9

Implantable cardioverter defibrillator (ICD) storm, assessment following, 13

care following, device programming, 13 immediate, 12-13

medical, 13

patient education, 13-14

psychological, 13-14

cases, cardiac arrest and coronary artery

disease, 11

coronary artery disease and atrial fibrillation, 12

coronary artery disease and cardiomyopathy, 11-12

coronary artery disease with dual-chamber ICD), 11

dilated cardiomyopathy with 20% left ventricular ejection, 10-11

causes of, 10

comparison of patients with low and high numbers of storm shocks, 12

device programming and, 13

factors associated with, 10

incidence of, 9

issues for patients and families, 9-16

pain in, 12

patient counseling and, 14 patients at risk for, 10

Indirect calorimetry, in nutritional assessment, 387–388

Insomnia, 226

Insulin, for diabetic ketoacidosis, 345–346 post-resuscitation, in children, 18 safety precautions with, 65–66

Interdisciplinary collaboration, 143-148 barriers to, communication breakdown, 144-145 role ambiguity, 145-146 value variations, 145 benefits of, 144 definition of, 143-144 drivers of, 144 solutions for, achievement of foundation for, 146 communication and coordination, 147 education, basic and continuing, 146 standards to support collaboration, 146

International Guidelines 2000 Conference, on CPR and emergency cardiac care, 51-58

International Guidelines 2000 Conference recommendations for acute coronary syndrome, assessment and management of, 55-56 for acute stroke, 55-57 fibrinolytic therapy and, 56-57 mnemonic of 7 Ds in, 57 protocol development for, 57 for advanced cardiac life support pharmacology, 53-55 amiodarone, 53-55 antiarrhythmics, 54-55 anticoagulation, 54 beta-blockers, 54 calcium channel blockers, 54 magnesium, 54 airway management for health care providers, 52 - 53basic life support, 51-52, 63

Internship program, at Bay State Medical Center, 172 - 173for excellence in adult ICU, 172-173

based practice and, 51-52

defibrillation, 52, 63

electrical therapy, 52

on CPR and emergency cardiac care, evidence-

Intra-atrial re-entry tachycardia (IART), postoperative, in children with congenital heart disease, 80, 84-86

Intracranial pressure (ICP) monitoring, postresuscitation, in children, 18

Junctional ectopic tachycardia, postoperative, in children, 80, 86-88

Ketamine, for status asthmaticus, 476 Kidneys. See also Renal dysfunction. function of, 248

Learning, facilitator of, in synergy model, 118 Liver, alcohol effect on, 298

Liver dysfunction, pharmacokinetics of sedatives and analgesics in, bioavailability, 245-246 clearance, 247-248 distribution, 246-247 metabolism, 247 protein binding of, 247-248

Liver function, assessment of, 248

Lorazepam, for sedation, 260 comparison with midazolam, 293-294

Low cardiac output syndrome (LCOS), 375-383. See also Cardiac output. clinical signs and symptoms of, 377-379 diagnosis of, 379-380 etiology of, 377 management of, goals in, 380-381 pharmacologic, 381-382 postoperative, management of, 409-410

Magnesium sulfate, for status asthmaticus, 471, 473

Magnet designation, Beacon award, and primary nursing, 163-167

Magnet hospital designation, for nursing excellence, Georgetown University Hospital, 160 University of California at Davis, 163

Management team, unit, in evidence-based practice, 136

Maternal patients, transportation of, 208

Mechanically ventilated patients, sleep in, 251-255. See also Sleep, in mechanically ventilated patients. weaning from ventilator, 170-171

Mechanical ventilation, for status asthmaticus, 474-476 indications for, 474-475

Medication errors, action phases of, 281 in elderly patients, 284 in pediatric patient, 283-284

Medication safety. See also Clarian Safe Passage Program; Safety.
with antipsychotic agents, 68–69
crash carts, 67
crash carts, pediatric, 67
dosing errors and, 65
in emergency department, 65–69
with heparin, 65
with high-alert medications, 65–66
with insulin, 65–66
with nesiritide, 67–68
on pediatric ICU, 437–438
Rule of 6 and, calculation of concentrations of pediatric solutions, 66–67
with thrombolytic and fibrinolytic agents, 66

Melioidosis, in tsunami victims, 488-491

Mentoring, technology and, 110-111

Mentoring staff members, 121-126

Methodist Hospital coronary care unit, awards and acknowledgments received by, 153 as beacon of excellence, 149–154 center for professional excellence in, 151 evidence-based practice in, 152–153 nursing clinical career progression model in, 150–151 relationship-centered care in, 152 shared governance model in, 149–150 teaching-learning environment in, 153 unit culture and mission in, 151–152

Mexylxanthines, for status asthmaticus, 472-473

Midazolam, cross-tolerance to, 212–213 for sedation, 260 comparison with lorazepam, 293–294 in neonates, 208–209 tolerance to, 212

Midazolam withdrawal, chart review of, in pediatric patients, 216

Milrinone, for low cardiac output syndrome, 381-382

Monitoring, of patients, failure to, 281

Morphine, for sedation, 260
for systemic analgesia, pharmacology
of, 274
in ventilated neonate, 209
in ventilated pediatric patient, 208
Motor Activity Assessment Scale, 290–291

Myopathy, critical illness, 288, 444

N

Naltrexone, in alcohol withdrawal syndrome, 302 Near-death experience, in children, post-resuscitation, 19–20

Neonates, sedation of, in transportation, 208-209

Nesiritide, contraindications to, 67 dosing of, 68 incompatibility with injectable drugs, 67 medication safety with, contraindications to, 67

Networking, acute care nurse practitioner role, 170–180 resources for, 180–181

Neurologic examination, timing of, with bispectral technology, 263–264 hemodynamic variables and, 262 sedative half-life and, 262 subjective assessment and, 262

Neuromuscular blocking agents (NMBAs), adverse responses to, **441–450** medications and conditions interacting with, 445 monitoring of, 445–446 muscle weakness acquired from, 444–445

Nitric oxide, inhaled, for low cardiac output syndrome, 382

Norepinephrine, for cardiac arrest, 73

Northwest MedStar, community and professional service of, 188-189 continuing education and, 190 description of, 190 nationally prominent staff members of, 189-190 response in rural areas, 189 success of, revenues in, 187-188 safety and, 188 transport of critically ill patient, 183-190 accreditation of, 184 criteria for RN medical crew, 186 equipment, 186-187 ground support for, 187 history and evolution of, 183-185 indicators of success, 187 medical team, 184, 186

Nursing excellence. See also Excellence.
magnet hospital designation for, Georgetown
University Hospital, 160
University of California at Davis, 163–164

mission statement of, 184

Nutritional assessment, definition of, 385–386 and enteral support, 385–393 standard for, 388–389 techniques in, 386–388

Nutritional status, deterioration of, risks for, 386-387

Nutritional support. See also Enteral support. formulas for, composition for, 389–390 indications for, 388–389 modes of, enteral, 391–392 total parenteral, 392

0

Obstructive sleep apnea (OSA). See also *Sleep apnea*. anesthetic, sedative, and analgesic agents effects on, 274–276 in children, fentanyl and, 275 pharmacology and, 271–274

upper airway compliance in, 271 alcohol effect on, 271

benzodiazepine effect on, 271

Opiates, for sedation, 260

sedation in, 269-277

Opiate withdrawal syndrome, 212-213

Opioid-benzodiazepine combination, in sedation of pediatric patient, 208

Opioids, gastrointestinal motility and, 446-447 sleep and, pharmacology of, 273-274

Opioid withdrawal, 212 treatment of, 221

164-165

Organ dysfunction, in sepsis, 418-419

Organizational excellence, in evidence-based practice, 127-134

Orientation, competency-based, Georgetown
University Hospital, 158
for excellence in adult ICU, 172
synergy model of, in Clarian Health Partners,
116–117
nurse side, 116–117
patient side, 116
University of California at Davis, surgical ICU,

Outcomes, acute care nurse practitioner and, 180 of evidence-based practice, in medical intensive care unit sedation management, 140 family presence during CPR and, 23–24 patient, 158–159, 165–166

Oversedation. See also *Sedation*.

costs of, 289

with lorazepam, 294

neuromuscular impairment and, 288
in sedation—assessment conundrum, 259

Oxygen, for status asthmaticus, 470

Oxyhemoglobin dissociation curve, temperature effect on, 97-98

p

Pain, management of, in transportation setting, 206-207 sleep disruption and, 241-242

Palliative care, adult ICU team and, 171

Patient-controlled analgesia (PCA), respiratory depression with, 275–276 safety issues with, 280

Patient Outcomes, medical ICU, Georgetown University Hospital, 158–159 surgical ICU, University of California at Davis, 165–166

Patient safety. See also Clarian Safe
Passage Program.
mentoring staff members in, 121–126
synergy model and, 117
teamwork and conflict management and, 117

Pediatric advanced life support (PALS) guidelines, 59-64

for airway management, 61–62 for automatic external defibrillators, 62–63 for children with special needs, 61 endotracheal tube alternatives, 61 history of, 59 international advanced life support, 63 laryngeal mask airway, 61–62 "phone first" vs. "phone fast," 60–61 for post-arrest stabilization, 63 rhythm disturbance algorithms, 62 two-thumb compression technique in, 61 for vascular access, 62 visual changes in PALS manual, 60

Pediatric ICU, analgesics on, 242

BIS monitoring on, of sedation, 242
 of sleep states, 242–243
 safety in. See Safety, in pediatric ICU.
 sedatives on, 242
 sleep in, analgesic effect on, 242
 BIS monitoring of, 242–243
 nonpharmacologic methods for improving, 241
 sedative effect on, 242
 studies of, 240–241
 sleep vs. sedation, 241–242

Peer review, in synergy model, 117 Pentobarbital, for sedation, 260 Personal digital assistant (PDA), history and basics of, 46-47

integration into practice, adoption of, 49 arterial blood gas measurements, 45, 48 dosage calculation, 45, 48 drug check, 48

" S Curve of Technology Adopters" and, 49 operating systems for, 47

resources for practice, electronic texts for downloading, 48 online search for health-related software, 47–48

safety at point of care, 47 selection of, considerations in, 49 vs. laptops or personal computers, 47

Pharmacokinetics, of sedatives and analgesics, in critically ill patient, 212

effects of liver and renal dysfunction on, 245-250

in liver dysfunction, 245-248 in renal dysfunction, 248-249

Phenobarbital, for sedation, 260

Pneumonia, risk in hypothermia, 101

Point of care testing (POCT), in collaboration, 170

Poisonings, activated charcoal for age and, 397

alkalization of urine, for urinary excretion of, 403 antidotes in, 399–400

assessment and management of, 395-404 assessment of, 397-399

ABCDEs in, 397-398

history in, 399 laboratory testing in, 399-400 physical examination, 398-399

toxidromes in, 398-399

characteristics of, 396

enhanced elimination, with multiple-dose activated charcoal, 402–403

gastric emptying for, gastric lavage in, 401 syrup of ipecac in, 401

gastrointestinal decontamination for, 400–402 recognition of, 395–396 substances involved in, 396–397

Polyneuropathy, critical illness, 288

Positive pressure ventilation, in patient transport, 205-206

Potassium imbalances, overview and case examples, 364-365, 369-371

Practice, strategies for acute care nurse, 169–175 synergy model *versus* differentiated practice, 109–110

Primary nursing, surgical ICU, University of California at Davis, Total Patient Care Model in, 166-167

Procainamide, for atrioventricular re-entry tachycardia, in children, 83

Professional development, in synergy model, 117–118 teamwork, impact on patient safety, 117

Propofol, in pediatric ICU patients, 219 for sedation, 260

Propofol withdrawal syndrome, 217–219 prevention of, 221

Psychotherapy, for sleep disorders, 232-233

Public policy, nurses' emerging role in, 191–199

versus attitude of indifference, 191

awakening to, 191–192

current issues for, end-of-life care, 197–198

tobacco control, 196–197

educational shortcomings and, 192

influence on, collective, 193–196

individual, 192–193

legislative activities of organizations in, 194–195

revolution in the making, 198

stages of political development and, 192

Pulseless rhythms, in children, 81, 93-94

0

Quality of care, on pediatric ICU, measurement and analysis of, 438–439 mortality prediction as indicator of, 434 safety in PICU and, 431

Quality of life, after implantable cardioverter defibrillator (ICD) storm, 14

R

Radiation therapy, sleep disturbance and, 228

Ramsay Sedation Scale, 290

Rapid sequence intubation (RSI), sedation in, 206, 209

Recognition, of cues for endotracheal suctioning, 329-340

of staff members, at Bay State Medical Center, 173

Recruitment and retention, Georgetown University Hospital, 159–160 University of California at Davis, surgical ICU, 164 Relationship-centered care, Methodist Hospital, 152

Relaxation techniques, for sleep disorders, 232

Remifentanil, for sedation, 261

Renal dysfunction, kidney function and, 248

pharmacokinetics in, distribution, 248

drug clearance, 248

estimates of, 249

elimination, 248

metabolism, 248

Renal function, post-resuscitation, in children, 18

Respiratory complications, with oversedation, 288

Respiratory depression, from IV PCA with and without basal infusion, 275-276

Respiratory failure, in children, 78 clinical signs and symptoms of, 78

Resuscitation, pediatric, care following, 17–22 simulation in teaching of, 1–8

Resuscitation events. See also Cardiopulmonary resuscitation (CPR).

documentation of, 39-43

analysis of in-hospital adult cases, 42

future research in 42-43

literature review of, 41

in pediatric care, 41

practice recommendations, 42

resuscitation teams and, 41

role of documentation nurse, 40

technologic devices in, 40-41

Ulstein guidelines for, 39-40, 42

National Registry for CPR Resuscitation and, 41

Richmond Agitation-Sedation Scale (RASS), 291, 293

Riker Sedation-Agitation Scale, 290-291

Rule of 6, in calculation concentration in pediatric solutions, 66

S

Safety. See also Clarian Safe Passage Program; Medication Safety:

Medication Safety: Eindhoven classification system and, 279–283

human factors and, 281-284

organizational factors and, 280-282

technical factors and, 279-280

of medical devices, failures of, in human interaction with, 279-280

medication errors and, 281

in patient transport, 188, 209

PDA use and, 47

prioritization of interventions and, 284

proactive approaches to, 284

reactive assessment of errors and, 284

in sedation, classification systems in consideration and investigation of, 284

sedation and, 279-285

technical risks to, 279-280

Safety in pediatric ICU, catheter-related bloodstream infections and, 435-436

communication for, 433-434

endotracheal extubations and, unplanned, 436

and health care quality, 432

measurement and analysis of, 438-439

medication safety and, 437-438

mortality prediction as quality indicator and, 434

patient identification and, 435

quality outcomes and, 431-440

restraints and, 436-437

severity of illness adjusted length of stay for, 434-435

standardizing processes for, 432

transparency and, 438

working conditions for health care providers and, 431-432

Sedation. See also Oversedation.

adaptation to the intensive care environment

(ATICE) scale, 291, 293

administration method for, 293-294

adverse responses to, 441-450

cost associated with, 447-448

gastrointestinal, 446-447

tolerance, dependence, and withdrawal, 441-443

analgesia vs., 241

anaigesia vs., 241

assessment of, during patient transport, 207

case example of, 287

complications of, and critical illness, 287-296

oversedation, 287-288

preventing, 289-292

daily interruption of, 294

disuse muscle atrophy and, 288-289

guidelines for adult ICU, 171

intravenous bolus vs. continuous infusion of, 294

management of, on medical ICU, 137-140

objective measures of, actigraphy, 292-293 bispectral monitoring, 292

in obstructive sleep apnea, 269-277. See

also Sleep.
patient safety and, 279-285

in patient transportation, prehospital and

interfacility, 205-207 post-cardiac surgery, 413-414 selection of agent for, 293 sleep and. See also *Sleep*. in pediatric ICU, 239–244

subjective measurement scales for, 289-292 tolerance and withdrawal with. 211-223

Sedation – assessment conundrum, 257–267. See also Sedation.

case presentation, 257-258 definition of, 258

neuroscience examination in. See also

Neurologic examination.

bispectral monitor in, 262–264

change in level of consciousness in, 262
response to central pain in, 261–262

reticular activating system in, 261-262 sedation interruption in, 263

timing of, 262

requirements of neurologic examination vs. ventilatory and hemodynamic requirements, 267

sedation in, challenges of, 259–261 goals of, 258–259 oversedation, 259 undersedation and 259–261

Sedation withdrawal, strategies for, in concomitant use os opioids, 221 with DEX, 221

switch to long-acting oral sedatives, 220 tapering and weaning, 220

Sedatives, pharmacokinetics of, in critically ill patient, 212 in hepatic dysfunction, 245–248 in renal dysfunction, 248–249

Sedative withdrawal syndromes, comparison with alcohol withdrawal, 211-212

Sepsis, 417-429

antibiotic therapy for, 425-426 clinical manifestations of, 421-422 definitions, 417-419 etiology of, 419 hemodynamic response in, 420-421, 423 with hypothermia, 101 infection in, 417-419 management of, alternative therapies, 427-428 antibiotics in, 425-426 coagulation abnormalities, 426-427 collaborative, 423-427 decrease in energy expenditure, 427 initial resuscitation, 424 metabolic, 416 nutritional, 426 ongoing, 424

pharmacologic, 425–426
renal, 426
respiratory, 426
monitoring and laboratory data in, 422–423
organ dysfunction in, 418–419
outcomes in, 428
pathophysiology of, 419–420
coagulation in, 419–420
endothelium in, 420
fibrinolysis in, 420
inflammatory response in, 419
shock in, 421–422

Shared governance, components of, 149-150

Shock, clinical signs and symptoms of, 78 definitions of, 421 septic, phases and symptoms of, 421-422

Siblings, death and, 459–460 perspective of critical illness, emotions and behaviors in, 453–454 influence of maturation and experiences in, 453

presence in pediatric ICU, **451–461**. See also *Family presence, during CPR*. alternatives to, 458 benefit of, to family adaptation, 454 care givers' resistance to, 454–455 concerns about death and, addressing, 459–460

creation of child-friendly atmosphere for, 460 guidance of visit, 457–459 health screening for, 457–458 parent's guide to helping children visit, 456–457 policy for, 455–459 preparation of parents for, 457

Simulation, of competent, proficient, and expert learners, 6-7 in health care education, 1-2

Dreyfus model of skill acquisition and, 5 from novice to advanced beginner, 5-6 high-fidelity, 2-3

evidence-based research for, 7 need for cost/benefit ratio study of, 7

program development for, system, equipment, educational factors in, 2

terms for devices and systems in, 2 at Veterans Administration San Diego Health Care System and University of California at San Diego, in advanced cardiac life support, 5 of code blue, critical care team, 5

in medical surgical course for nurses, 4–5 simulation laboratory, 3–5

Sleep, apneic, types of, 269-270 basic mechanisms of, 269-270 in children, normal, 240 in pediatric ICU, 240-243. See also Pediatric ICU. definition of, 239 disruption of, effects of, 240 importance of, 226 in mechanically ventilated patients, 251-255 impaired, causes of, 253-254 objective evaluations of, 253 recommendations for care of, 254 research on, problems in, 252 subjective evaluations of, 252-253 need for, 251-252 normal, 251-252 in children, 240 in pediatric ICU, sedation and, 239-244 processes of, 225 REM. 239 REM and non-REM, 225, 240 slow wave, 239, 251 stages of, 270 vs. sedation, 241-242

Sleep apnea. See also *Obstructive sleep apnea (OSA)*. assessment of, 270–271 polysomnography, overnight, 270 subjective tools for, 270–271 types of, 269–270

Sleep deprivation, in cancer patients, psychosocial impact of, 225–237 consequences of, 239

Sleep disorders, in patients with cancer, 225-237 clinical sequelae of, 230 cytokine production and, 229 environment and, 229 etiologic factors in, 227-230 non-pharmacologic interventions for, 231-233 nursing implications of, identification of cause, 233 identification of patients, 233 psychosocial support, 234 scheduling of activities, 234 sleep hygiene strategies, 233-234 pain and, 227-228 pharmacologic interventions for, 230-231 prevalence of, 226 psychologic factors and, 229-230 treatment-related causes of, 228-229 tumor effects and, 228

Sleep schedules, for sleep disorders, 231

types of, 226

Sodium bicarbonate, post-resuscitation, in children, 18

Sodium imbalances, overview and case examples, 364, 367-369

Sodium nitroprusside, for low cardiac output syndrome, 382

Staff support, in healing environment, 172

Standards of care, safety and, 281

Status asthmaticus, assessment of, clinical diagnostics in, 468–469 clinical scoring in, 467 patient history in, 467–468 physical examination in, 469 epidemiology of, 463 future therapies for, 476 management of, clinical, 470, 473–476 in pediatric ICU, 463–479 pharmacologic, 469–473, 476 pathophysiology of, 463–464 cellular manifestations of, 464–465

clinical manifestations of, 465-467

Sudden cardiac death, description of, 33 implantable cardioverter defibrillator prevention of. 33-38 for community practice, 37 implications of, for primary and secondary prevention, 37 for research and policy, 37-38 indications for, AHA Class I and Class II, 36 - 37primary, 33 in coronary artery disease, 35 in heart failure, 35-36 implications of, 37 secondary, 33 clinical trials in, 34-35 populations at risk for, 34 prevention of, implantable device therapy in, 33 - 38as public health problem, 33

Support, of family and staff, in healing environment, 172

Supraventricular tachycardia, in children, atrial flutter, 80, 83–84 intra-atrial re-entrant, 80, 83–84 junctional ectopic, postoperative, 80, 86–88 in neonates and infants, atrial flutter, 80, 83–84 atrioventricular re-entrant, 79–80, 82

Synergy, for leadership development, 113-119 as mentoring model, 109-112

Synergy model, as basis for mentoring, 110 Clarian Professional Practice Model and, 109 in clinical nursing education, 115-118 versus differentiated practice, 109-110 for leadership development, 113-115 learners in, 115 management development in, 118 nurse characteristics in, 114, 115 nursing administrative staff in, 115 orientation in, 116-117 patient needs and characteristics in, 113 professional development in, 117-118 technology and mentoring in, 110-111 environmental side of, 113 management development in, 118 patient characteristics in, 122

Systemic inflammatory response syndrome (SIRS), criteria for, 417

T

Tachyarrhythmia(s), in children, 78 supraventricular tachycardia, 79–80, 82–88 ventricular tachycardia, in congenital long QT syndrome, 81, 89–91

Technology, mentoring and, 110-111

Temperature management, post-resuscitation, in children, 18

Thermoregulation, in cardiac resuscitation, 97–102 current studies, 98–99 hypothermia and neuroprotection, 98 temperature measuring devices and, 99–100 physiologic mechanisms of, for heat loss, 97 for metabolic heat production, 97 temperature effect on oxyhemoglobin dissociation curve, 97–98

Thick filament myopathy (TFM), 444

Thrombolytic agents, dosage and administration of, 66

Tobacco control, public policy and, nurses' emerging role in, 196-197

Tolerance, to analgesics, 441–443
defined, 211
definition of, 441
to DEX, in animal studies, 219–220
pharmacokinetic and pharmacodynamic, 217
to propofol, in adult ICU patients, 217–219
to sedatives, 211, 441–443
types of, 211

Torsades de pointes, in children, 81, 89-91

Toxidromes, 398-399

Transportation, air medical transport, 207 behavioral issues concurrent with patient's medical or trauma status, 206 complications in, 209 of critically ill patient. See Northwest MedStar, transport of critically ill patient. ground, 207 of maternal patients, 208 mode considerations, 207 of neonates, 208-209 operational safety considerations in, 209 of pediatric patients, 208 prehospital and interfacility, airway management in. 205-206 mode considerations in, 207 pain management in, 206-207 sedation and, 205-207

Traumatic brain injury, airway management in, 206

Tsunami disaster, children in, decision not to treat, 487 mortality before and after, 487, 493 value of in diasters, 492 chronology, 481–482 need for international pediatric intensive care disaster team, 482–493 response from Belgium assistance from German medical intervention, 486–487

Banda Aceh hospital conditions, 484–486 case examples, 487–489 collaboration with Australian team, 487 collaboration with other medical teams, 491–492

cultural differences of Acehnese doctors, 491 French replacement of Belgian medical teams, 492 incorporation of Spanish team in, 491

Jakarta staff and, 491 medical teams 2 and 3, 489-490 preparation of medical team to assist, 483 Sigli refugee camp, condition of children, 484

response to, 481-494

T

Unit, and excellence in evidence-based practice, 134–137 as system in synergy model, 118

University of California at Davis, magnet hospital designation of, 163-165

1

Vancouver Interaction and Calmness Scale, 290-292

Vasopressin, for cardiac arrest, 73

Vasopressors, for cardiac arrest, 71-75

Ventilatory support, for status asthmaticus, 474-476

Ventricular fibrillation, in children, 81, 93-94

Ventricular tachycardia, in congenital long QT syndrome, 81, 88-91

incessant, in very young children, 81, 88-89

Vision, in evidence-based practice, 133-134 for organizational excellence, 133-134

Vital signs, parameters in children, 78

W

Weaning and extubation from mechanical ventilation, adult ICU protocol, 170-171

Withdrawal, alcohol and drug, definition of, 441 risk for, 442

symptoms of, 443

therapy for, 443-444

Withdrawal of life support, analgesia or sedation during, 353

decision-making in, 352-353

Withdrawal syndromes, alcohol. See *Alcohol* withdrawal syndrome.

benzodiazepine. See Benzodiazepine (BZD) withdrawal syndrome.

sedative. See Sedative withdrawal syndromes.

7

Zaleplon, for sleep, 273

Zolpidem, for sleep, 273

